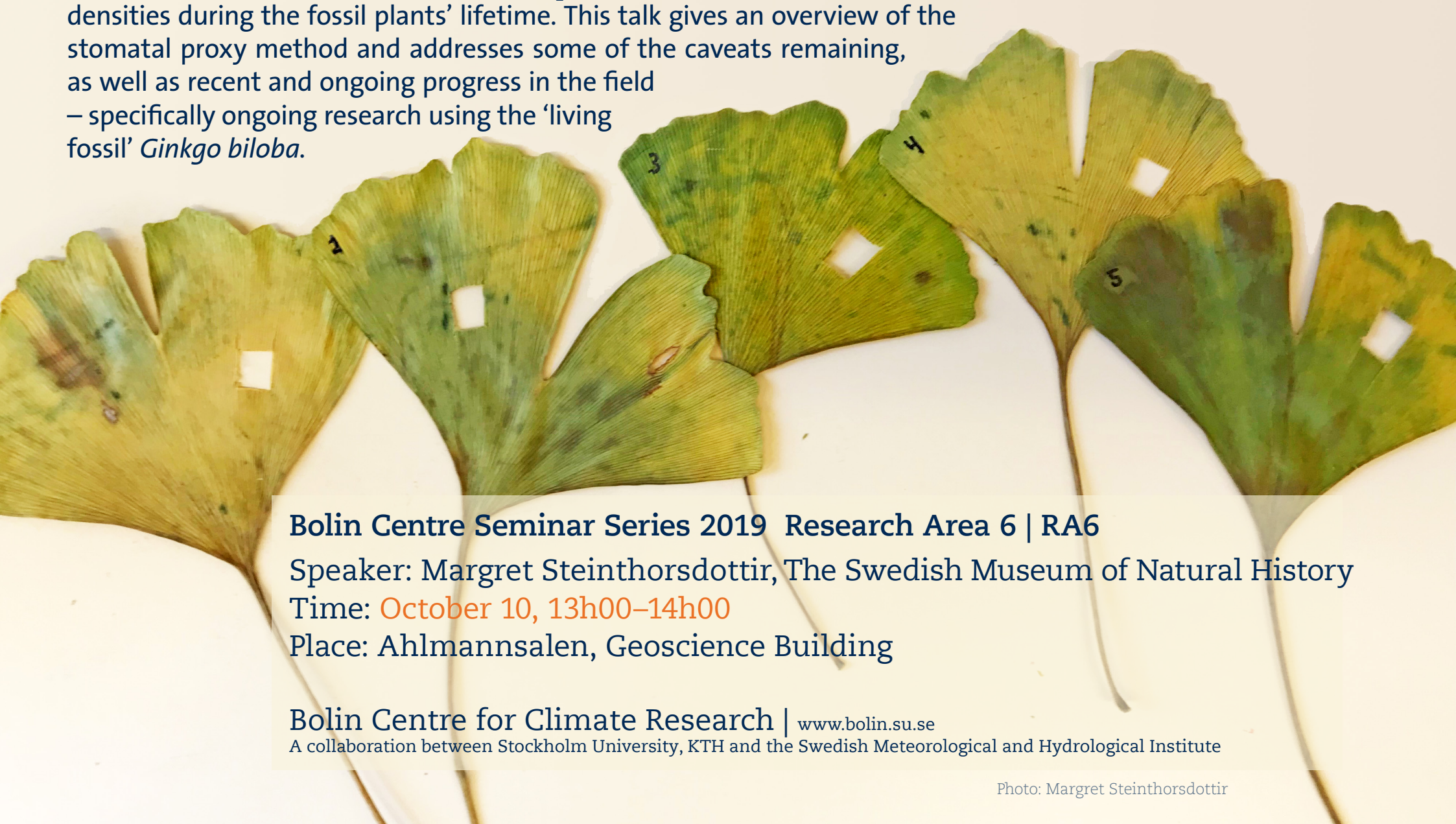
Stockholm University

Bolin Centre for Climate Research

Project GLOBAL GINKGO: Refining a palaeo-pCO_2 proxy using a living fossil plant.

A key outstanding research question limiting predictions of future climate change is how much the Earth's climate will warm for a given increase in CO_2 concentrations (pCO_2) – the so-called climate sensitivity. The expected warming for a doubling of pCO_2 is highly under-constrained by current models: between 1.5 ºC and 5 ºC. Climate models have not managed to reduce this range after decades of research and now scientists are turning to past observations for help, by integrating climate modelling with geological proxy records of past greenhouse global warming. One such palaeo-proxy is the stomtal proxy method for pCO_2 reconstruction, which relies on the empirically established inverse relationship between the density of stomata on plant leaves and pCO_2. This proxy has proven increasingly important to the climate change research community, but there are still uncertainties regarding the exact way to calibrate stomatal densities to palaeo-pCO_2, and which additional environmental factors may have influenced these densities during the fossil plants' lifetime. This talk gives an overview of the stomatal proxy method and addresses some of the caveats remaining, as well as recent and ongoing progress in the field – specifically ongoing research using the 'living fossil' *Ginkgo biloba*.



Bolin Centre Seminar Series 2019 Research Area 6 | RA6

Speaker: Margret Steinthorsdottir, The Swedish Museum of Natural History
Time: October 10, 13h00–14h00
Place: Ahlmannsalen, Geoscience Building

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Photo: Margret Steinthorsdottir